KENTUCKY
Career and Technical Education

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Reach Higher with Career and Technical Education

Agri-Science Fair: Not your typical agriculture event

CTE Summer Conference

Choosing the appropriate text

Also in this issue:

- Associate Commissioner's Notes & Upcoming Events

Volume V Fall 2013

Associate Commissioner's Notes

Greetings, CTE Champions!

OCTE has a lot to celebrate, but our list of tasks probably will never grow shorter and the needed resources probably always will be less than desired. However, the accomplishments of OCTE will increase each moment. So don't forget the value of every moment. Each word and action can have a profound impact.

With that said, we will be sending you a set of talking points soon to help spread the word of what we do and what we need to keep doing it.

As the next General Assembly undertakes the daunting task of crafting a state budget, we want to make sure our stakeholders are fully aware of our needs to fulfill the mission of getting our students college- and career-ready. We have established a list of priorities to share that include:

- advocate for increased CTE funding by the state General Assembly (providing stakeholders with talking points about CTE)
- curriculum revisions in the Program of Studies (a new format for the career pathway document that merges the two curricular systems)
- transition Kentucky Occupational Skills Standards Assessment (KOSSA) to online for the February/March 2014 testing window
- administration of the WorkKeys Assessments to all CTE preparatory students in February/March 2014
- pilot the Professional Growth and Effectiveness System in seven area technology centers
- identify district(s) for the development of a technical high school/early technical college
- implement the Tech Ready Apprentices for Careers in Kentucky (TRACK) program

It is a great time to be working with CTE in the state. Business and industry across the state are seeking prepared individuals to fill high-demand, high-skill and high-wage jobs. The Unbridled Learning for All accountability model recognizes this need of business and industry by placing a huge emphasis on all students graduating from high school and achieving college- and career-ready measures.

OCTE is excited about all the good things taking place in CTE. As we strive to keep building on this momentum, we want to have a solid, consistent message to our stakeholders as we move through our school year.

Thanks for your hard work and dedication.

Sincerely,
Dale Winkler
Associate Commissioner –
Office of Career and Technical Education

Upcoming CTE Events

October

October 24-25, 2013
Manufacturing Curriculum Committee Meeting
20th floor of the Capital Plaza Tower

November

November 8, 2013
2013 Central KY Welding Classic
Hughes Jones Harrodsburg Area Technology Center

November 22, 2013
FEA KY State Conference
Kentucky Transportation Cabinet Conference Center

Events to be listed in the Winter CTE Newsletter calendar should be submitted no later than Dec.1, 2013. See below for contact information.

More than 2,400 CTE students from across the state made their way to Shelbyville Fair Grounds for the 2013 Construction Career Days. Many of those students took advantage of the hands-on activities provided by the many business and industry partners that participated in the event.

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Reach Higher with Career and Technical Education

As Career and Technical Education (CTE) moves into more mainstream educational areas through programs such as pre-engineering, advanced manufacturing and medical technology, some feel that traditional skills classes such as electrical technology, welding, automotive technology and carpentry may get left behind.

Not true, said Associate Commissioner Dale Winkler, who heads up the Office of Career and Technical Education (OCTE) for the Kentucky Department of Education. He said those skills are just as needed, but often students, parents and even school counselors don't realize how vital those programs are as they relate to a trained workforce and furthering one's education.

"It's just a matter of educating students on the many fields they can enter through such programs and educating parents and teachers on just how important it is to keep these programs in tech schools across the state and throughout the country," Winkler said.

Students at this year's FFA State Convention are presented awards during one of the General Sessions.

A new OCTE initiative called "Reach Higher with CTE" has been launched to help explain the need for teaching these classes as well as other CTE programs and to educate the public on how necessary skills like welding, electricity, auto repair and carpentry are to the well-being of the economy.

"These skills touch each one of us every day in some way," Winkler added. "It's hard to imagine not having students go through these programs so they can one day fulfill the ever-present need for these jobs."

The U.S. Department of Labor projects growth in most skilled technical areas through the year 2020. According to information listed by the agency's Bureau of Labor Statistics:

- Employment of carpenters is projected to grow 20 percent from 2010 to 2020, faster than the average for all occupations. Job prospects for carpenters should improve over the decade as construction rebounds from the recent recession.

- Employment of electricians is projected to grow 23 percent from 2010 to 2020, faster than the average for all occupations. Homes and businesses require more wiring than ever, and electricians will be needed to install the necessary components.

- Employment of welders, cutters, solderers, and braz ers is expected to grow 15 percent from 2010 to 2020,

The carpentry competition at the 2013 SkillsUSA State Conference.

A FCCLA member participates in the Fashion Design competition during last year's state conference.

about as fast as the average for all occupations. Skilled welders with up-to-date training should have the best job prospects.

- Employment of automotive service technicians and mechanics is expected to grow 17 percent from 2010 to 2020. Job opportunities for qualified job-seekers should be very good.

As with any initiative, OCTE is implementing an operational plan including working with business and industry partners to promote CTE – especially to those industry partners not normally associated with career education. Another part of the program is related to providing information about CTE programs to students, parents, educators and the general public through student-ambassadors, newsletters, press releases and existing social media avenues.

OCTE is the administrative home to all state CTE student organizations from which state and local chapter officers will serve as ambassadors speaking with local education and civic organizations to provide information about the "Reach Higher" initiative and other aspects of CTE.

"We can put distribute information in a variety of ways, but it is our students who can speak best to the value of CTE," said Joe Morgan, OCTE branch manager who oversees those organization advisors. "For many students, their CTE experience will provide the knowledge used to guide their career decisions."

Morgan also said a more moderate and continuous path to success is the approach OCTE is taking as opposed to pushing the program ahead too quickly.

"In an era when budgets are tight and time is at a premium, we want to proceed in a timely but reasonable fashion," he said. "This initiative is revenue neutral and is designed more to create a positive state of being for CTE rather than implement new or costly programs. We want 'Reach Higher with CTE' to be as much about a belief and a changed perspective more than anything."

What business already thinks

Across the country, countless industries already support CTE in some way –be it through apprenticeship training programs, on-the-job training initiatives or providing equipment to secondary programs. And more corporation heads are speaking out on the value of CTE.

Nicholas T. Pinchuk, chairman and chief executive officer of Snap-on Inc., said what's needed is an American workforce armed with the right skills – a workforce enabled by technical education.

"Industry and government both must participate in this effort. In that regard, I see two major areas of focus. Industry needs to enable technical

A competitor made a few last minute adjustments during the robotics competition held at last year's TSA State Conference.

A student participates in the bio-medical technology event during last year's HOSA state conference.

institutions. We must ensure that schools are using the best equipment and facilities. Industry also needs to help set standards for education so that students learn the specific skills that are necessary, that are actionable in the marketplace and that can get them the jobs that create prosperity. That's first," he said. "Second, is that somewhere along the way, America – in my opinion – has lost a bit of its respect for technical occupations. They are now often viewed as a consolation for not earning a four-year degree. Both government and industry need to work in tandem to change this view. Young people must be encouraged to pursue technical professions."

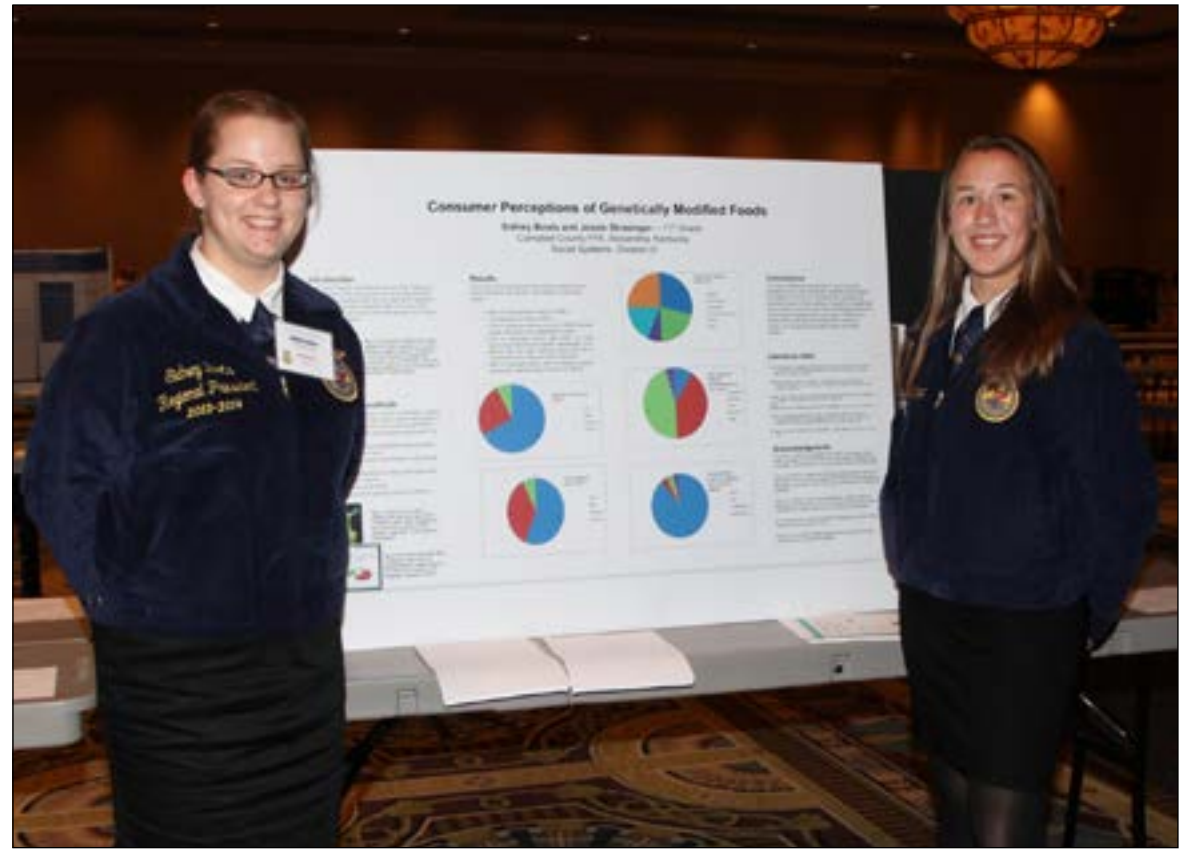
*Jim Lentz, president and CEO of Toyota Motor Sales USA, said t*oday's cars are basically computers on wheels, so having the education and technical experience is critical in the auto business or almost any field.

"Automobiles have nearly 1,000 times more computing power than the system that guided Apollo astronauts to the moon. It's true," he said. "Further, even more advanced technologies and electronics are being added to vehicles. And, since cars are becoming more complex, we're going to need good people that have the knowledge and the know-how to keep things in tip-top condition."

With more and more emphasis on improving college-and career-readiness goals, CTE is playing a much stronger role in the educational process than ever before, noted Winkler.

"But it will take a combination of our traditional and newer programs to make this movement sustainable," he said. "We hope the 'Reach Higher' initiative is not only embraced in our system but throughout the state and even beyond as CTE educators continue to prepare the new generation workforce for lifelong careers."

Agri-Science Fair: Not your typical agriculture event



Sidney Boots, left and Jessie Strasinger, both students from Campbell County High School, stand in front of their project about genetically modified food.

The Agri-Science Fair has become one of the biggest competitive events at the state FFA Convention.

Rebecca Epps, assistant professor in the Community and Leadership Development Department at the University of Kentucky (UK), is in charge of the university's agriculture education program. She coordinated this year's agri-science event and said there were 104 registered entries this year, marking the largest number since the competition began seven years ago

"It has grown every year, and I hope to have 150 next year," she said. "As a high school agriculture teacher, this was one of my favorite competitions in which to have students participate. Word got out that if you were a freshman in my class, you had to do an Agri-Science Fair project. It's a great way to teach the scientific method. Students get to see it in action, and they really use their interest to guide their projects."

Students work throughout the year to create a variety of projects ranging from plant analysis to consumer feedback for the competition.

Epps said she asks students how they got into the project and where did it go from there – what did they learn.

The competition consists of six different categories: animal science systems; environmental and natural resources systems; food processing and product systems; plant systems; power structure technology systems; and social systems.

Within those six categories are four divisions that can be done individually or as a team. Divisions 1 and 3 are for 7th- through 9th-graders; Divisions 2 and 4 are open only to 10th-, 11th and 12th graders.

Epps, who is serving as a first-year coordinator, has judged the competition and said it is a treat to see these students progress from the 7th- and 8th-grade levels to their junior and senior years.

She also said that many who come to the fair with no ag education background are amazed at the caliber of student projects.

"Being at UK as well as having contacts at Eastern Kentucky University, I had a lot of professors come and judge, and they were all blown away at the quality that was taking place, and these are people that are scientists in horticulture or animal sciences who do not see the education part that we do on a daily basis," Epps said.

She noted that using hands-on learning really helps the students better understand the scientific concepts of these projects.

"If a student can use the scientific process and go through a project like this with an interest in agriculture, it all comes together – the classroom, the Supervised Agriculture Experience (SAE) project as well as being advised in the science application in agriculture," Epps said.

The top winners in each category will move on to the national convention to be held this October in Louisville. Epps said the state projects are competitive with what ag students from across the country are doing.

"I've been affiliated with four different states, and this one is growing by leaps and bounds," she said. "The quality of work put forth by the chapters and students is right on par with those at the Nationals.

One of this year's winning teams, Sidney Boots and Jessie Strasinger from Campbell County High School, conducted a survey to measure how people feel about genetically modified food (GMF). They created a poster display to show the results and provided information about the subject.

GMF is produced from genetically modified organisms, like plants that are modified to help ward off certain diseases or grow bigger, with the idea that these plants will produce more food.

"In today's society producers are constantly faced with the challenge of producing enough food for the growing population, so one way they have done that is through GMF," Boots said. "However, because this food is so prevalent, we wondered how aware consumers were of these."

The two students came up with a list of questions for the survey. Once the questionnaire was finalized, they conducted the assessment at a local grocery store, analyzed the data and drew up their conclusions. The result was a panel display with a chart to go with the information pertaining to GMF

Strasinger said the results were a "mixed bag" but that many consumers were somewhat aware of GMF.

"We found that some consumers are aware of genetically modified foods, but there's a conflict in their knowledge of what GMF could do to them, health wise," she said.

Both concluded that more research should be done before these types of foods are produced on a larger scale.

Matt Chaliff, agriculture education consultant with the Office of Career and Technical Education and state FFA executive secretary, said not only do projects like this help students learn more about science but can lead to broader discussion.

"The Agri-Science Fair prepares students to apply agriculture and academic knowledge to solve real-world problems both in higher education and in their future careers – it is truly ensuring that they are college- and career-ready," he said.

A student competitor explains her project to one of the judges at the Agri-Science Fair held each year during the state FFA convention.

CTE Summer Conference

The annual Career and Technical Education (CTE) Summer Conference brought more than 1,600 teachers and administrators to Louisville to participate in dozens of professional development opportunities and hear the latest updates from local, state and national CTE leaders.

Mike Stone, executive director of the Kentucky Association of Career and Technical Education (KACTE), said the 2013 CTE Summer Program exceeded the attendance of the past few years.

"This indicates the value of the conference for obtaining program and curriculum updates and sharing strategies that enhance career and technical education across Kentucky," he said. "The CTE Summer Program provides a unique opportunity to bring together all the disciplines that comprise career and technical education, which creates a sense of camaraderie and a unity of purpose to improve college- and career-readiness for all students in Kentucky."

Teachers had the opportunity to get updates in their respective programs, as well. Laura Arnold, policy advisor with the Office of Career and Technical Education, said the information at the conference is invaluable to teachers and administrators.

"This is the one time of year our teachers, central office personnel and administrators can gather in one place and have access to all kinds of educational and leadership information," she said. "There are also informative sessions where attendees can learn everything from how to build robots to specifics about environmental education."

As in years past, the Kentucky Association for School Administrators (KASA) conference began as the CTE Summer Conference was ending. This year, for the first time, a student showcase was presented as a session for those attending the KASA conference to demonstrate some of the programs offered through CTE and offering a chance to meet students and their teachers.

There were six groups participating in the showcase: the agriculture program from Louisville's Seneca High School, the Information Technology program from Bell County Area Technology Center (ATC), the Early Childhood Education program from Henderson County Career and Technical Center, the automotive technology program from the Jackson County ATC, the Tech Ready Apprentices for Careers in Kentucky (TRACK) pre-apprenticeship initiative with the Breckinridge County ATC and Atlas Machine and Supply Company, and a robotics demonstration offered by Green County ATC's electrical technology, welding and machine tool technology programs.

Dale Winkler, Kentucky Department of Education associate commissioner, said there are no better messengers to tell others about how valuable CTE is to students than the students themselves.

"I think our students not only had a lot to say about their programs but, in showing some of the projects they have worked on and demonstrating their professionalism in front of education leaders from across the state, the message came through loud and clear during this first student showcase: CTE is a valuable sector in our educational world and one we can't live without."

Emily Johnston, the early childhood learning teacher at Henderson County, has taught the program there for eight years. She said she explained at the KASA Conference how her high school students are already learning to be teachers.

"One reason it's important to start teaching this at the high school level is because students who wait and go to college thinking they want to do

Students representing the Green County ATC posed for a picture during the Student Showcase held at the 2013 Summer Conference. The students were demonstrating a robot built at their school.

something related to early childhood learning and later find out they don't enjoy working with children have wasted a lot of money and wasted a lot of their time," she said. "In high school they get a good idea of what pre-school teachers, daycare workers and elementary school teachers look like, and they really get a true understanding of this career pathway and how it can fit their lives."

Macy Goodley, a recent graduate of Henderson County High School, participated in the early childhood education program for three years. She also served as the schools Family, Career and Community Leaders of America (FCCLA) president. Goodley said she plans to attend college and become a pre-school teacher.

"I believe it's important to start (education) early with children because the more knowledge they have to base their base their future on, the better," she said. "When they are young, they are so open to new things and they can learn so much quicker."

Jordan Ziegler also graduated from Henderson County High this year. She said she had always wanted to work with young children – the reason she came to the early childhood education program.

"I just love kids and I thought it would be interesting. You get to learn about the development of a baby, then on to the business of running a day-care, and we get to work at the pre-school that is located at the high school and be the second teacher in the room," she said.

Cassidie Cartwright and Thomas Brown, both students at Seneca High School, represented their agriculture program during the showcase. While agriculture education is present in most Kentucky high schools, it takes on a new meaning for students located in urban-area schools like Seneca.

Brown said he did not come from a farming background and the ag program is quite different than he expected.

"It has actually been fun and has helped me in other areas like with my leadership skills," he said. "It surprised me to learn there are so many different things linked to agriculture."

Cartwright did live on a farm and said she has seen that the rural side of life is different from living in a city like Louisville.

"When you live in those rural areas, people are more aware of agriculture than in the city, where most people don't think about it," she said. "Once you take the ag class, your eyes really become opened to how much agriculture plays a role in your everyday life."

Cartwright added that she told visitors to the showcase the many things the students learn in the ag classroom and how it can help them with career choices later in life.

Students from the Bell County Area Technology Center (ATC) Information Technology program represented the IT sector at the showcase. Darren Jackson, a senior at the school, said what he is learning now will help him later choose a career that not only is directly related to the computer industry but any industry that uses computers in any capacity.

KCTCS Chancellor Jay Box, left, and KDE Associate Commissioner Dale Winkler held a panel discussion during the 2013 Summer Conference.

Ron Crouch, Research and Statistics director with the Education and Workforce Development Cabinet, spoke with Summer Conference attendees about social trends and how that affects education.

Patricia 'Sam' Lewis, a machine tool technology teacher at Louisville's Jeffersontown High School participated in a robotics building session during the 2013 Summer Conference.

"I feel like what I'm learning now about computers is the most valuable thing I have done up to this point," he said. "This is going to be my foundation for many years."

Nick Freeman, another Bell County senior, said computer technology has connected small towns to the rest of the world.

"There is so much you can get from this program, including math skills and general computer science," he said. "Being able to take this class is a privilege, and it will be a give me a solid foundation."

Brittany Skidmore, also a Bell County student, said her classes in IT have given her more focus on what career she wants. "Once I took my intro class, I knew then what I wanted to do," she said.

The students from Green County ATC took a project as part of their showcase endeavor. The fully operational remote controlled robot came with a laptop brain, metal arms and a wheelbase that enabled it to maneuver through the hallways, exciting attendees.

Jared Kelly, a recently Green County graduate, said the robot was created through a collaborative effort between three very traditional classes: welding, machine tool technology and electricity.

The showcase robot was actually a second generation machine. Kelly said the first was created out of old lawn mower tires and an old electrical box. The axles were machined at the school while the welding class put it together and the electricity class wired it to have lights. The laptop was added to allow the machine to transmit information.

"It is cool that we are able to bring our classes together to basically create an industrial maintenance program," he said.

The school is involved in a pilot project to take those three traditional areas to create the industrial maintenance component and accredit students in four disciplines instead of three.

The Breckinridge County ATC presented its pre-apprenticeship program during the showcase. Personnel from Atlas Machine and Supply Company, which is partnering with the school to involve high school students in an apprenticeship program, were part of the presentation, as well.

Kim Brewer, Atlas director of Human Recourses, said it's important to remember that while college is great for some students, it's not for all, and the apprenticeship program at Atlas allows students to gain postsecondary educational knowledge in a different way.

Tom Thompson, Breckinridge County ATC principal, said getting students ready for an apprenticeship does not take away educational components but adds to them in a different pathway.

"Part of this pre-apprenticeship program will count toward the student's apprenticeship hours," he said.

Rounding out the showcase was the automotive technology program from the Rockcastle County ATC. Recent graduate Justin Rose, who completed all the auto tech programs at the school, will be going to the Somerset Community College to further his education in the program area. He said he can go as far educationally as he likes with what he has learned in high school and may become a teacher someday.

Winkler said the showcase was a great way to show other educators just how valuable CTE is to all students and how it is becoming a valuable tool in helping districts meet their college- and career-readiness goals.

"As we strive to reach those goals, the value of CTE is more evident today than ever before," he said. "We hope this showcase and others like it will educate our educators who are unfamiliar with the CTE programs."

CTE: Choosing the Appropriate Texts

by Teresa Rogers

You've spent the first few days of August preparing for the new school year. There are newly waxed floors, freshly painted safety lines in your lab and a desk that is clutter-free. You've reviewed your curriculum map, assembled materials and printed syllabi. In the midst of this hectic rush, it's easy to overlook a key question in preparing students for success beyond our classroom, "What will your students read in this course?"

An obvious answer to this question is the textbook and, although this resource is a wealth of information, the technical classroom provides the ideal setting to incorporate authentic texts that students will encounter in the workplace. But where do you begin? Let's consider a few basics that can guide you through the process.

Texts should support the current unit of study.

Supporting literacy in your classroom doesn't mean that you overlook the content; instead you use it as a vehicle for students to deepen their understanding of the skills and concepts you are teaching. Just as you collect resources and materials, begin to collect texts to supplement the current topic. Choose one or two of these to read during the unit and guide students to examine it closely for meaning, evaluate the information and compare it with what is presented in the textbook or hands-on activities.

Text complexity should reflect what a professional in your field would read.

What articles would an expert in your field read in professional journals, newspapers or online? The Kentucky Core Academic Standards (KCAS) state that text complexity must be aligned with college- and career-readiness expectations for all students. They also recognize that you, as the educator, are best suited to select texts to meet the needs of your students. Students may struggle with these, but it is critical that we give them the opportunity to do so. Through scaffolded support from you, students will deepen their understanding of your content through a real-world lens. Further information on text complexity can be found in Appendix A of the Kentucky Core Academic Standards.

Use a variety of texts.

To increase student engagement and provide experience comparable to the workplace, include a wide variety of texts such as business letters, reports, proposals, advertisements, editorials, product reviews or repair manuals. Texts that require students to evaluate the author's purpose or deliver information through tables, charts or diagrams build the critical literacy skills that students will need as they enter the workplace.

Provide scaffolds to meet the needs of all your students.

Although you may have students who read below grade level, standard 10 states that all students will read and comprehend technical texts in their grade band independently and proficiently. To help them reach this goal, determine what supports they will need. Start with a short piece of text and use technology to make modifications, adapting the length, visuals and/or vocabulary. "Chunk" the text into small, manageable sections and provide multiple opportunities for students to interact by choosing appropriate reading strategies. Provide time for students to read independently and with a partner. Read and think aloud to your students to model how good readers make sense of complex text. All students will benefit by consistent, ongoing support through the reading process.

As you start the new school year or any new unit of study, consider how you can support students as they build the literacy skills necessary to succeed in your field. It's a daunting, but worthy task that will impact the lives of countless students. So the key question is, "What will your students read this year?"

Additional information and resources can be found at www.cteliteracy.com.